

**Opportunity Title:** USDA-ARS Characterizing Ephemeral Gully Erosion

Fellowship

**Opportunity Reference Code:** USDA-ARS-SE-2023-0131

**Organization** U.S. Department of Agriculture (USDA)

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**How to Apply** *Connect with ORISE...on the GO!* Download the new ORISE GO mobile app in the [Apple App Store](#) or [Google Play Store](#) to help you stay engaged, connected, and informed during your ORISE experience and beyond!

A complete application consists of:

- An application
- Transcripts – [Click here for detailed information about acceptable transcripts](#)
- A current resume/CV, including academic history, employment history, relevant experiences, and publication list
- Two educational or professional recommendations

All documents must be in English or include an official English translation.

**Application Deadline** 2/2/2024 3:00:00 PM Eastern Time Zone

**Description** \*Applications are reviewed on a rolling-basis.

**ARS Office/Lab and Location:** A research opportunity is currently available with the U.S. Department of Agriculture (USDA), Agricultural Research Service (ARS), located in Oxford, Mississippi.

The Agricultural Research Service (ARS) is the U.S. Department of Agriculture's chief scientific in-house research agency with a mission to find solutions to agricultural problems that affect Americans every day from field to table. ARS will deliver cutting-edge, scientific tools and innovative solutions for American farmers, producers, industry, and communities to support the nourishment and well-being of all people; sustain our nation's agroecosystems and natural resources; and ensure the economic competitiveness and excellence of our agriculture. The vision of the agency is to provide global leadership in agricultural discoveries through scientific excellence.

**Research Project:** The research will address the feasibility of assessing the impacts of conservation practices on ephemeral gully erosion reduction in agricultural fields. Research will contribute to developing an understanding of how much soil loss results from ephemeral gullies and the extent to which ephemeral gullies occur within USDA Conservation Effects Assessment Project (CEAP) watersheds. This would provide a targeted management approach for the placement of conservation practices that addresses the erosion source and to quantify the amount of soil saved from the entire system. Modeling tools developed in collaboration with the USDA Natural Resource Conservation Service (NRCS) will be used to evaluate the conservation effects on fields within CEAP watersheds and support decision making for conservation management by NRCS.

APPOINTMENT ACTIVITIES:

- The participant will collaborate with USDA-ARS research scientists in all phases of operation and evaluation of the ephemeral gully erosion



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study.

- The participant will seek out relevant data and review literature for existing knowledge related to ephemeral gullies and sheet and rill erosion.
- The participant will collaborate with USDA-ARS research scientists to develop experimental techniques for erosion studies, including unmanned aerial systems.
- The participant will collaborate with USDA-ARS scientists to implement a monitoring plan to evaluate ephemeral gully erosion on agricultural fields.

**Learning Objectives:**

- The participant will gain valuable experience collaborating with a multi-agency interdisciplinary research working group.
- The participant will become proficient at integrating disparate data sources and modeling techniques.

**Mentor(s):** The mentors(s) for this opportunity is Ron Bingner ([ron.bingner@usda.gov](mailto:ron.bingner@usda.gov)). If you have questions about the nature of the research, please contact the mentor(s).

**Anticipated Appointment Start Date:** 2023. Start date is flexible and will depend on a variety of factors.

**Appointment Length:** The appointment will initially be for two years but may be renewed upon recommendation of ARS and is contingent on the availability of funds.

**Level of Participation:** The appointment is full-time.

**Participant Stipend:** The participant will receive a monthly stipend commensurate with educational level and experience.

**Citizenship Requirements:** This opportunity is available to U.S. citizens only.

**ORISE Information:** This program, administered by ORAU through its contract with the U.S. Department of Energy (DOE) to manage the Oak Ridge Institute for Science and Education (ORISE), was established through an interagency agreement between DOE and ARS. Participants do not become employees of USDA, ARS, DOE or the program administrator, and there are no employment-related benefits. Proof of health insurance is required for participation in this program. Health insurance can be obtained through ORISE.

**Questions:** Please visit our [Program Website](#). After reading, if you have additional questions about the application process, please email [ORISE.ARS.Southeast@orau.org](mailto:ORISE.ARS.Southeast@orau.org) and include the reference code for this opportunity.

**Qualifications** The qualified candidate should have received an associate's, bachelor's, master's, or doctoral degree in one of the relevant fields (e.g., Agricultural

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Engineering, Geological Engineering, Civil Engineering, Industrial Engineering), or be currently pursuing one of the degrees with completion before start of appointment. Degree must have been received within the past five years.

Preferred Skills:

- Expertise in soil and water conservation.
- Specific knowledge of soil erosion processes, surface hydrology, watershed modeling, remote sensing, and a broad knowledge of computer software, geographical information systems, environmental science, agriculture, and soil science.
- Additional knowledge of or experience with current methods used in topographic analysis, or other remote sensing technologies is highly desirable.

- Eligibility Requirements**

- **Citizenship:** U.S. Citizen Only
  - **Degree:** Associate's Degree, Bachelor's Degree, Master's Degree, or Doctoral Degree received within the last 60 months or currently pursuing.
  - **Discipline(s):**
    - **Earth and Geosciences** (3👁)
    - **Engineering** (6👁)
    - **Environmental and Marine Sciences** (4👁)
  - **Veteran Status:** Veterans Preference, degree received within the last 120 month(s).